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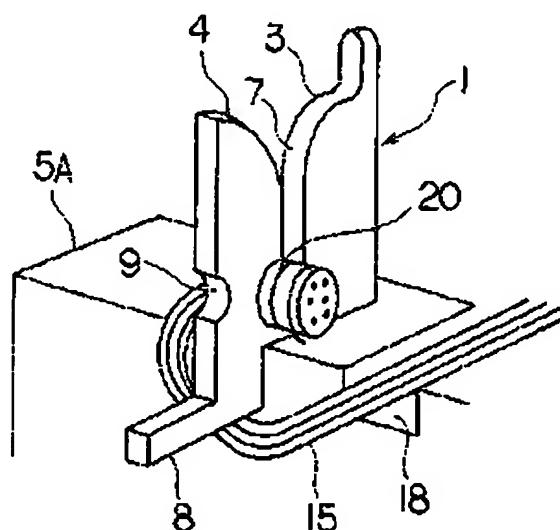
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(54) 【発明の名称】 導線の端子への固定方法及び導線固定用端子

## (57) 【要約】

【目的】 リップ線などの導線の端子への係止を容易かつ確実に行う。

【構成】 端子1に形成したかしめ部6に導線15を係合させてかしめた後、かしめ部6からみ出した導線15の端部の外周に細線20を巻き付ける。その後かしめ部6と導線15をハンダで固定する。



# PATENT ABSTRACTS OF JAPAN

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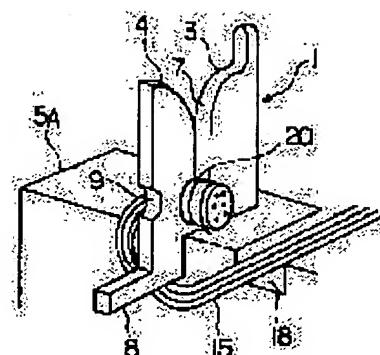
(21)Application number : 06-184926 (71)Applicant : NITTOKU ENG CO LTD

(22)Date of filing : 05.08.1994 (72)Inventor : KUNO HITOSHI

## (54) CONDUCTOR FIXING TERMINAL AND FIXING METHOD

### (57)Abstract:

**PURPOSE:** To stop a conductor, e.g. a litz wire, easily and surely to a terminal without requiring a large space by bonding the conductor to a caulking part formed in the terminal and caulking the conductor thereat, winding a thin wire about the end part of the conductor projected from the caulked part, and then soldering the caulked part and the conductor.



**CONSTITUTION:** When a litz wire 15 is inserted between the forked members 3, 4 of a terminal 1 from above while gripping the forward end part thereof by means of a chuck, the litz wire 15 is guided along a guide face 7 to a litz wire mounting part. The litz wire 15 is then cut off in the vicinity of the terminal 1 and the forked members 3, 4 are caulked from the outside thus securing the litz wire to the terminal 1. A thin wire 20 is then wound around the end part of the litz wire 15 projecting from the mounting part prior to soldering. Subsequently, the terminal 1 is sunk into a solder bath 21 thus soldering the terminal 1 and the end parts of the litz wire 15. Since the thin wire 20 wound around the forward end part of the litz wire 15 prevents the litz wire 15 from being unstranded, the soldered part is prevented from inflating.

## LEGAL STATUS

[Date of request for examination] 26.06.1998

[Date of sending the examiner's decision of rejection]

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[Date of final disposal for application]

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[Date of registration] 05.11.1999

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right] 05.11.2002

**\* NOTICES \***

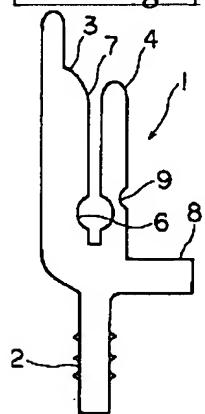
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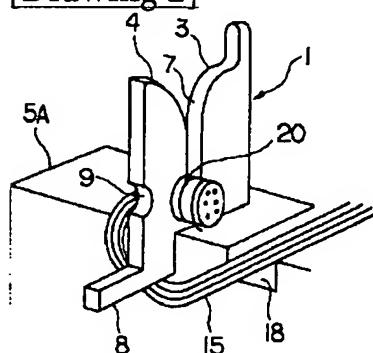
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**DRAWINGS**

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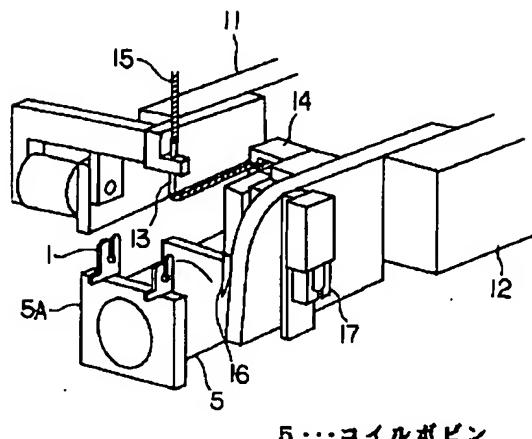
**[Drawing 1]**

1 … 備子  
2 … 固定部  
3, 4 … 二股部材  
6 … リップ線接着部

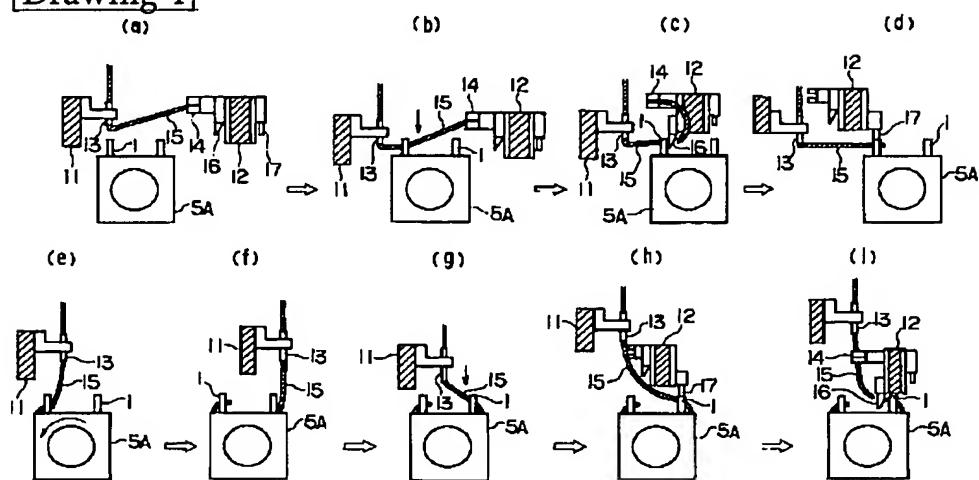
**[Drawing 2]**

5 A … フランジ  
15 … リップ線  
20 … 細線

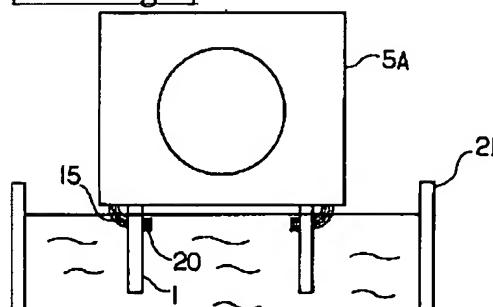
**[Drawing 3]**



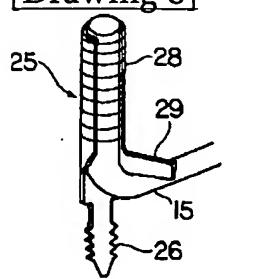
[Drawing 4]



[Drawing 5]

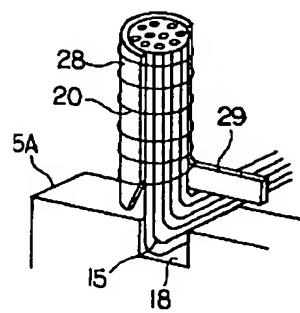


[Drawing 6]



28 ……ガイド

[Drawing 7]



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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the front view of the terminal in which the 1st example of this invention is shown.

[Drawing 2] Similarly, it is the perspective view of the terminal fixed to the flange.

[Drawing 3] Similarly, it is the perspective view of the winding-machine important section which stops litz wire to a terminal.

[Drawing 4] Similarly, it is the explanatory view which explains order for the stop actuation to a terminal later on.

[Drawing 5] Similarly, it is the vertical cross section of a pewter tub showing a soldering activity.

[Drawing 6] It is the perspective view of the terminal in which the 2nd example of this invention is shown.

[Drawing 7] Similarly, it is the perspective view of the terminal fixed to the flange.

[Description of Notations]

1 Terminal

2 Fixed Part

3 Four 2 crotch material

5 Coil Bobbin

5A Flange

6 Litz-Wire Applied Part

15 Litz Wire

20 Thin Line

28 Guide

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[Translation done.]

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**CLAIMS**

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**[Claim(s)]**

[Claim 1] The fixed approach to the terminal of the lead wire characterized by fixing said caulking section and lead wire with a pewter after twisting a thin line around the periphery of the lead-wire edge which lead wire was made to engage with the caulking section formed in the terminal, and was protruded from a caulking and the caulking section.

[Claim 2] The fixed approach to the terminal of the lead wire characterized by twisting and soldering to the section after twisting around a direct terminal the edge of the lead wire led to the terminal with a thin line.

[Claim 3] The fixed approach to the terminal of a lead wire according to claim 1 or 2 whose lead wire is litz wire.

[Claim 4] The terminal for lead-wire immobilization characterized by forming one side of 2 crotch material for a long time than another side while having the fixed part laid under the end face by supporter material, branching a head to two forks and constituting the applied part of lead wire between this forked member.

[Claim 5] The terminal for lead-wire immobilization characterized by having had the fixed part laid under the end face by supporter material, and having the gutter-shaped lead-wire applied part of an abbreviation semicircle cross section at a head.

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[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

#### [0001]

[Industrial Application] This invention relates to amelioration of the fixed approach of the lead wire which stops lead wire, such as litz wire, for the terminal of coils, such as a transformer, and amelioration of the terminal which stops lead wire.

#### [0002]

[Description of the Prior Art] The litz wire used for the coil of the coil of a transformer is the aggregate of many conductive high strands, and since the whole path is thick, if it is simply twisted around the terminal of a coil bobbin and stops, a stop part will become large, will contact the litz-wire stop section of the terminal which adjoins in the case of soldering, and will tend to short-circuit it. For this reason, the miniaturization of a transformer becomes difficult although the terminal which stops litz wire must open spacing between terminals compared with the terminal which stops the usual lead wire therefore.

[0003] Then, the terminal which prepared slitting which can carry out press fit immobilization, without twisting litz wire around a terminal is proposed by JP,56-169526,U. Moreover, the terminal for which litz wire is inserted in JP,4-334006,A inside cylindrical, and a cylinder is closed from an outside is proposed. It can do [ stopping without twisting litz wire around a terminal with neither of the terminals, or ].

#### [0004]

[Problem(s) to be Solved by the Invention] However, when litz wire was cut at the point of the press fit section in the case of the former, the rose \*\*\*\* inclination had the cutting section of litz wire. When this part was rose \*\*\*\* and soldering, it was transmitted to the rose beam strand, and the pewter was spread, and there was a problem that a possibility of contacting the terminal which carries out part contiguity because a soldering part becomes large became large.

[0005] Moreover, in order to insert the head of litz wire inside cylindrical in the case of the latter, there was a problem that the alignment at a cylindrical inlet port and the head of litz wire was difficult, and the head of litz wire could not insert well with rose \*\*\*\*\*.

[0006] This invention was made that the above-mentioned trouble should be solved, and aims at

easily for \*\*\*\*\*, and ensuring the stop to the terminal of lead wire, such as litz wire, a tooth space.

[0007]

[Means for Achieving the Goal]

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## EFFECT OF THE INVENTION

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[Effect of the Invention] As mentioned above, since invention of claim 1 twisted the thin line at the head of the lead wire protruded from the caulking section in advance of soldering, fixation of the pewter to lead wire is promoted and immobilization for the terminal of lead wire is strengthened.

[0040] Invention of claim 2 can make the cross section of a fixed part small while twisting lead wire around a terminal directly with a thin line and strengthening immobilization for the terminal of lead wire for a soldering \*\* reason.

[0041] Since a thin line prevents \*\*\*\*\* of the edge of litz wire, and diffusion of the pewter accompanying \*\*\*\*\* , invention of claim 3 can hold down the range of soldering to necessary minimum. For this reason, distance between the terminals which fix litz wire can be shortened, and the miniaturization of devices, such as a coil bobbin for transformers which uses litz wire, is attained.

[0042] In order that invention of claim 4 may use the 2 crotch material which lengthened one side, induction to the applied part of lead wire and a stop become easy.

[0043] Since invention of claim 5 was equipped with the lead-wire applied part of an abbreviation semicircle cross section at the head, it can make small the cross section of the fixed portion of lead wire. Therefore, the spacing reduction between terminals is attained and desirable effectiveness is in the miniaturization of a coil bobbin.

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[Translation done.]